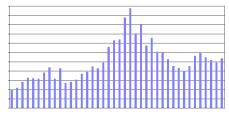


## NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE



Published by the IEEE NPSS Radiation Effects Steering Group

FACT BOOK 2013 Edition

## Fifty Years of Radiation Hardening

Compiled and Edited by:

Ronald L. Pease, Dale G. Platteter, Klaus G. Kerris and Kenneth F. Galloway

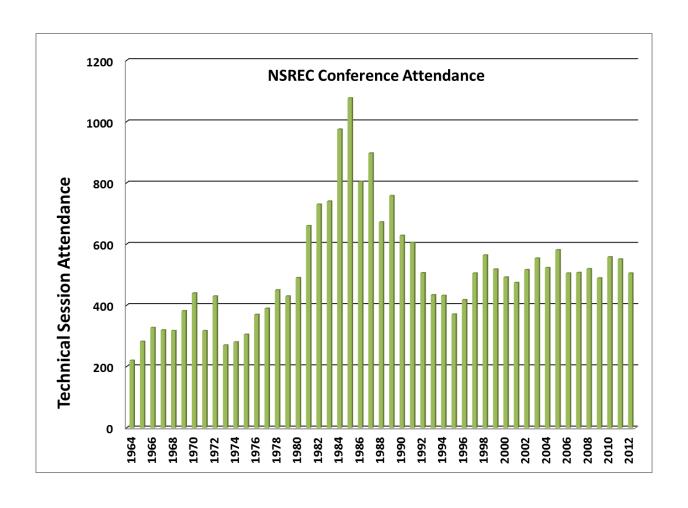
#### **CONFERNCE INDEX**

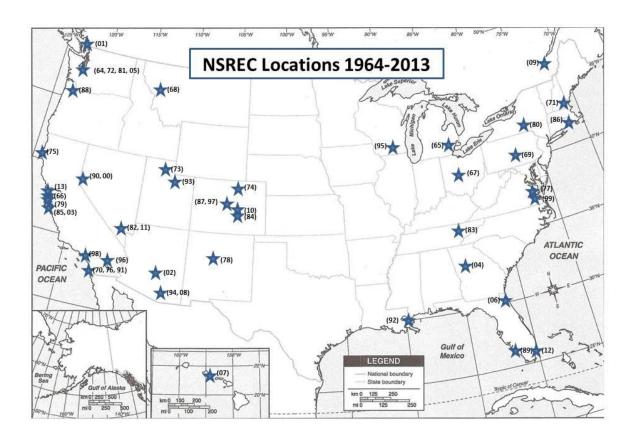
No.	Year	HOST	LOCATION ATT	ENDANCE
*	1962	Hilton Hotel	Denver, CO	180
**	1963	Royal York Hotel	Toronto, ON, Canada	200
1	1964	University of Washington	Seattle, WA	220
2	1965	University of Michigan	Ann Arbor, MI	282
3	1966	Stanford University	Palo Alto, CA	327
4	1967	Ohio State University	Columbus, OH	319
5	1968	University of Montana	Missoula, MT	317
6	1969	Pennsylvania State University	University Park, PA	382
7	1970	University of California	San Diego, CA	440
8	1971	University of New Hampshire	Durham, NH	317
9	1972	University of Washington	Seattle, WA	430
10	1973	Utah State University	Logan, UT	270
11	1974	Colorado State University	Fort Collins, CO	280
12	1975	Humboldt State University	Arcata, CA	305
13	1976	University of California	San Diego, CA	370
14	1977	College of William and Mary	Williamsburg, VA	390
15	1978	University of New Mexico	Albuquerque, NM	450
16	1979	University of California	Santa Cruz, CA	430
17	1980	Cornell University	Ithaca, NY	490
18	1981	University of Washington	Seattle, WA	660
19	1982	Caesar's Palace	Las Vegas, NV	730
20	1983	Sheraton Hotel	Gatlinburg, TN	740
21	1984	Broadmoor Hotel	Colorado Springs, CO	975
22	1985	Hyatt-Regency Hotel	Monterey, CA	1077
23	1986	Performing Arts Center	Providence, RI	804
24	1987	Snowmass Conference Center	Snowmass, CO	897
25	1988	Marriott Hotel	Portland, OR	672
26	1989	Marriott's Marco Island Resort	Marco Island, FL	758
27	1990	Bally's Hotel	Reno, NV	628
28	1991	Town and Country Hotel	San Diego, CA	605
29	1992	Hyatt Regency Hotel	New Orleans, LA	506
30	1993	Snowbird Ski & Summer Resort	Snowbird, UT	434
31	1994	Westin La Paloma Resort	Tucson, AZ	432
32	1995	Holiday Inn - Madison West	Madison, WI	371
33	1996	Stouffer's Esmeralda Resort	Indian Wells, CA	418
34	1997	Snowmass Conference Center	Snowmass, CO	505
35	1998	Newport Beach Marriott	Newport Beach, CA	564
36	1999	Waterside Marriott	Norfolk, VA	518
37	2000	Silver Legacy Resort & Casino	Reno, NV	492
38	2001	Westin Bayshore	Vancouver, BC, Canad	da 474
39	2002	Pointe South Mountain Resort	Phoenix, AZ	516
40	2003	DoubleTree Hotel	Monterey, CA	554
41	2004	Renaissance Waverly Hotel	Atlanta, GA	523
42	2005	Seattle Sheraton Hotel	Seattle, WA	581
43	2006	Sawgrass Marriott Resort	Ponte Vedra Beach, F	L 505
44	2007	Hilton Hawaiian village	Honolulu, HI	507
45	2008	J. W. Marriott Starr Pass Resort	Tucson, AZ	519
46	2009	Hilton and Convention Center	Quebec City, CA	489
47	2010	Sheraton Denver Downtown Hotel	Denver, CO	558

48	2011	J. W. Marriott Las Vegas Resort	Summerlin, NV	551
49	2012	Intercontinental Miami Hotel	Miami, FL	505
50	2013	Hyatt Regency San Francisco	San Francisco, CA	TBD

In 1962, the Nuclear Radiation Effects Program was part of the AIEE Summer General Meeting.

<sup>\*\*</sup> In 1963, the Nuclear Radiation Effects Program was part of the (IRE/AIEE) Summer General Meeting.





#### INTRODUCTION

The annual IEEE Nuclear and Space Radiation Effects Conference (NSREC) is an international forum for the presentation of research papers related to radiation effects in materials, and electronic devices, circuits, and systems. Papers presented at NSREC are submitted to the *IEEE Transactions on Nuclear Science* for publication in the December issue.

Radiation effects in the IEEE commenced in the late 1950's, under the sponsorship of two subcommittees in the American Institute of Electrical Engineers (AIEE), one of the predecessor engineering organizations that merged with the Institute of Radio Engineers (IRE) in 1963 to form the IEEE. From 1958 to 1961, radiation effects sessions were limited to technical symposia and round table discussions held at annual General Meetings of the AIEE.

Solicited technical papers were presented for the first time at the 1962 AIEE Summer General Meeting held in Denver, Colorado. An enlarged Nuclear Radiation Effects Program was included in the 1963 IEEE (AIEE/IRE) Summer General Meeting held in Toronto, Canada. The first independent Nuclear Radiation Effects Conference was held in July 1964, at the University of Washington, and has been held annually every July since then. Commencing in 1975, by tradition, the Conference has been held at a western location for two-thirds of the time and an eastern location every third year.

Since 1980, a one-day tutorial short course has been conducted on the day immediately preceding the conference. The *NSREC Short Course Notebook* is published each year.

Commencing in 1982, the Hardened Electronics and Radiation Technology (HEART) Conference, sponsored by DoD and DoE, was held at a site near the NSREC and immediately following it. The 1986 HEART Conference was the last to follow this practice.

An Industrial Exhibits was added in 1991 to replace the hospitality suites that several vendors had been holding at prior NSRECs. The Industrial Exhibits have continued to the present growing from 18 exhibitors in 1991 to 57 in 2012.

A Radiation Effects Data Workshop session was added to the conference in 1992. Proceedings from this session are published in the *IEEE Radiation Effects Data Workshop Record*.

Policy and general planning for the NSREC is developed by the IEEE's Nuclear and Plasma Sciences Society (NPSS) Radiation Effects Committee, better known as the Radiation Effects Steering Group (RESG). The

committee's chairman, executive vice-chairman, and secretary are elected for three year terms at the open meeting which is held annually at each conference. Further, one member-at-large is elected each year for a three-year term. Ex-officio members of the committee include the past chairman, past, present, and future conference chairmen, a publicity chairman, a publications chairman, the editor of *IEEE Transactions on Nuclear Science* (special publications assignment), RADECS conference liaison, and members of the NPSS Administrative Committee (AdCom).

The publications chairman appoints an editor each year to serve a three year term. In the third year the editor becomes the Guest Editor for the NSREC special December issue of the Transactions on Nuclear Science (TNS). This practice was changed in 2007 when a Senior Editor was given the job of editing all papers on Radiation Effects for NSREC, RADECS and contributed papers to the TNS. The Senior Editor assigns Associate Editors who serve for as long as they are willing. There are usually six Associate Editors.

The attendance numbers were established by the Conference Chairman's page in the December issue of the Transactions on Nuclear Science up until 1990 when the registration contractor, ETC Services, was hired and started keeping a record of the number of attendees for the technical sessions and the short course. These numbers represent the paid plus compensated attendees.

The number of papers presented was taken from the Conference Chairman's page in the December TNS and includes the number of oral presentations, poster papers, late news papers and Radiation Effects Data Workshop (REDW) papers when that information was available. Poster papers started in 1975 and the REDW started in 1992.

# NUCLEAR RADIATION EFFECTS PROGRAM: AIEE SUMMER GENERAL MEETING

June 17-22 Hilton Hotel Denver, CO

Program Chairman: John Winslow

William Price

Attendance: 180

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Chairman: Radiation Effects to Insulation Subcommittee of the Electrical Insulation Committee -

Chairman: Radiation Technology Subcommittee of the Nucleonics Committee -

William Price

John Winslow

# NUCLEAR RADIATION EFFECTS PROGRAM: IEEE (IRE/AIEE) SUMMER GENERAL MEETING

June 16-21 Royal York Hotel Toronto, ON, Canada

William Price

Program Chairman: R. M. Magee

Bendix Systems Division

Attendance: 200

Proceedings Published in: IEEE Transactions on Nuclear Science **NS-10**, November 1963

Guest Editor: Edward E. Conrad

Diamond Ordnance Fuze Labs

\_\_\_\_\_

Chairman: Radiation Effects to Insulation Subcommittee

of the Electrical Insulation Committee -

Chairman: Radiation Technology Subcommittee

of the Nucleonics Committee - John Winslow

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 20-23 University of Washington Seattle, WA

Conference Chairman: John C. Mitchell

Bell Telephone Laboratories

Technical Program: A. William Snyder

Sandia Corporation

Local Arrangements: H. Wicklein

The Boeing Company

Attendance: 220

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-11, November 1964

Guest Editor: William A. Bohan

**IBM** Corporation

Radiation Effects Committee: Chairman - John Winslow

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 12-15 University of Michigan Ann Arbor, MI

Conference Chairman: William A. Bohan

**IBM** Corporation

Technical Program: S. C. Rogers

Sandia Laboratory

Local Arrangements: R. Magee

University of Michigan

Attendance: 282

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-12, October 1965

Guest Editor: J. R. Bilinski

Radiation Effects Committee: Chairman - Edward E. Conrad

Vice Chairman - A. William Snyder Secretary - Victor J. Linnenbohm Member at Large - John C. Mitchell

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 18-21 Stanford University Palo Alto, CA

Conference Chairman: S. C. Rogers

Bell Telephone Laboratories

Technical Program: V. A. J. Van Lint

General Atomic Div., G. D.

Local Arrangements: Ms. Marge Hartman

Stanford University

Attendance: 327

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-13**, December 1966

Guest Editor: Frank W. Poblenz

Number of technical papers presented: 42

Radiation Effects Committee: Chairman - Edward E. Conrad

Vice Chairman - A. William Snyder Secretary - Francis J. Campbell

Member at Large - Richard M. Magee

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 10-14 Ohio State University Columbus, OH

Conference Chairman: S. E. Harrison

Martin-Marietta Corp.

Technical Program: J. L. Wirth

Sandia Laboratory

Local Arrangements: D. D. Glower

Ohio State University

Attendance: 319

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-14**. December 1967

Guest Editor: James P. Raymond

Northrop Corporate Labs

Number of technical papers presented: 40

Radiation Effects Committee: Chairman - Edward E. Conrad

Vice Chairman - A. William Snyder Secretary - Francis J. Campbell Member at Large - Floyd N. Coppage

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 15-18 University of Montana Missoula, MT

Conference Chairman: Orlie L. Curtis

Northrop Corporate Labs.

Technical Program: Robert S. Caldwell

The Boeing Co.

Local Arrangements: Thomas J. Collins

University of Montana

Attendance: 317

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-15**, December 1968

Guest Editor: Andrew G. Holmes-Siedle

RCA Astro-Electronics Div.

Number of technical papers presented: 57

\_\_\_\_\_

Radiation Effects Committee: Chairman - A. William Snyder

Vice Chairman - Chihiro Kikuchi Secretary - Floyd N. Coppage

Member at Large - Robert B. Oswald

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 8-11 Pennsylvania State University University Park, PA

Conference Chairman: D. K. Wilson

**Bell Telephone Laboratories** 

Technical Program: Edward A. Burke

AF Cambridge Research Laboratories

Local Arrangements: Joseph Stach

Pennsylvania State University

Attendance: 382

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-16**, December 1969

Guest Editor: C. A. Goben

University of Missouri, Rolla

Number of technical papers presented: 55

Radiation Effects Committee: Chairman - A. William Snyder

Chairman - Vice Chairman - Chihiro Kikuchi
Secretary - Floyd N. Coppage

Member at Large - Robert B. Oswald

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-23 University of California San Diego, CA

Conference Chairman: Robert A. Poll

Systems, Science, & Software

Technical Program: R. K. Thatcher

Battelle Memorial Institute

Local Arrangements: Terry M. Flanagan

Gulf General Atomic. Inc.

Attendance: 440

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-17**, December 1970

Guest Editor: Harold L. Hughes

Naval Research Laboratory

Radiation Effects Committee: Chairman - A. William Snyder

Vice Chairman - Chihiro Kikuchi Secretary - Floyd N. Coppage Member at Large - Robert B. Oswald

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-23 University of New Hampshire Durham, NH

Conference Chairman: Robert E. McCoskey

Harry Diamond Laboratories

Technical Program: Terry M. Flanagan

Gulf Radiation Technology

Local Arrangements: G. C. Gerhard

University of New Hampshire

Attendance: 317

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-18**. December 1971

Guest Editor: Robert B. Oswald

Harry Diamond Laboratories

Number of technical papers presented: 61

Radiation Effects Committee: Chairman - Orlie L. Curtis

Vice Chairman - D. K. Wilson Secretary - James P. Raymond

Member at Large - Robert A. Poll

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 24-27 University of Washington Seattle, WA

Conference Chairman: Robert S. Caldwell

The Boeing Company

Technical Program: Bob L. Gregory

Sandia Laboratories

Local Arrangements: C. R. Brittain

The Boeing Company

Attendance: 430

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-19, December 1972

Guest Editor: J. P. Mitchell

**Bell Telephone Laboratories** 

Number of technical papers presented: 75

\_\_\_\_\_

Radiation Effects Committee: Chairman - Orlie L. Curtis Vice Chairman - D. K. Wilson

Secretary - James P. Raymond
Senior Member at Large - Robert A. Poll
Junior Member at Large - Edward A. Burke

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 23-26 Utah State University Logan, UT

Conference Chairman: Julian S. Nichols

Air Force Weapons Laboratory

Technical Program: David K. Myers

Fairchild Semiconductor

Local Arrangements: Robert H. Johnson

Northrop Research & Technology Center

Attendance: 270

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-20**, December 1973

Guest Editor: Charles E. Barnes

Sandia Laboratories

Number of technical papers presented: 61

\_\_\_\_\_

Radiation Effects Committee: Chairman - Orlie L. Curtis Vice Chairman - D. K. Wilson

Secretary - James P. Raymond
Senior Member at Large - Edward A. Burke

Senior Member at Large - Edward A. Burk Junior Member at Large - Bob L. Gregory

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 15-18 Colorado State University Fort Collins, CO

Conference Chairman: Edward A. Burke

A.F. Cambridge Research Laboratories

Technical Program: Ralph H. Stahl

Intelcom Rad Tech

Local Arrangements: D. H. Bryce

Kaman Sciences Corp.

Attendance: 280

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-21**. December 1974

Guest Editor: Joseph R. Srour

Northrop Research & Tech. Ctr.

Number of technical papers presented: 75

Radiation Effects Committee: Chairman - Robert E. McCoskey

Vice Chairman - Robert A. Poll Secretary - James M. McGarrity Senior Member at Large - Bob L. Gregory

Member at Large - Terry M. Flanagan

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 14-17 Humboldt State University Arcata. CA

Conference Chairman: Jerry A. Hood

Sandia Laboratory

Technical Program: Itsu Arimura

Boeing Aerospace Co.

Local Arrangements: Harold L. Flescher

Raytheon Co.

Attendance: 305

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-22, December 1975

Guest Editor: Roland E. Leadon

IRT Corporation

Number of technical papers presented: 81 oral, 22 poster

Radiation Effects Committee: Chairman - Robert E. McCoskey

Vice Chairman - Robert A. Poll
Secretary - James M. McGarrity

Senior Member at Large - Terry M. Flanagan
Junior Member at Large - Harold L. Flescher

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 27-30 University of California San Diego, CA

Conference Chairman: Terry M. Flanagan

**IRT** Corporation

Technical Program: Howard Sander

Sandia Laboratory

Local Arrangements: R. A. Berger

**IRT Corporation** 

Attendance: 370

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-23**, December 1976

Guest Editor: Bobby L. Buchanan

Rome Air Development Center

Number of technical papers presented: 79 oral, 24 poster

\_\_\_\_\_

Radiation Effects Committee: Chairman - Robert E. McCoskey

Vice Chairman - Robert A. Poll
Secretary - James M. McGarrity

Senior Member at Large - Junior Member at Large - Kenneth F. Galloway

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 12-15 College of William and Mary Williamsburg, VA

Conference Chairman: Harold L. Hughes

Naval Research Laboratory

Technical Program: Robert B. Oswald

Harry Diamond Laboratories

Local Arrangements: Mayrant Simons

Research Triangle Institute

Attendance: 390

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-24**, December 1977

Guest Editor: Ralph H. Stahl

Intelcom Rad Tech

Number of technical papers presented: 78 oral, 35 poster

\_\_\_\_\_

Radiation Effects Committee: Chairman - Robert S. Caldwell

Vice Chairman - Jerry A. Hood Secretary - Itsu Arimura

Senior Member at Large - Kenneth F. Galloway Junior Member at Large - Harvey A. Eisen

## IEEE ANNUAL CONFERENCE ON **NUCLEAR AND SPACE RADIATION EFFECTS**

July 18-21 University of New Mexico Albuquerque, NM

Conference Chairman: Bob L. Gregory

Sandia Laboratory

Technical Program: Joseph R. Srour

Northrop Research Center

Local Arrangements: Howard H. Sander

Sandia Laboratory

Attendance: 450

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-25. December 1978

Guest Editor: **Mayrant Simons** 

Research Triangle Institute

Number of technical papers presented: 61 oral, 23 poster, 8 late news

Radiation Effects Committee: Chairman - Robert S. Caldwell

> Vice Chairman -Jerry A. Hood Secretary - Itsu Arimura Senior Member at Large - Harvey A. Eisen

Junior Member at Large - Alan G. Stanley

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 17-20 University of California Santa Cruz, CA

Conference Chairman: James P. Raymond

Mission Research Corporation

Technical Program: Roland Leadon

**JAYCOR** 

Local Arrangements: David K. Myers

Fairchild Semiconductor

Attendance: 430

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-26**, December 1979

Guest Editor: John Bombardt

Research & Development Assoc

Number of technical papers presented: 68 oral, 18 poster, 5 late news

Radiation Effects Committee: Chairman - Robert S. Caldwell

Chairman - Robert S. Caldwell
Vice Chairman - Jerry A. Hood
Secretary - Itsu Arimura
lember at Large - Alan G. Stanley

Senior Member at Large - Alan G. Stanley Junior Member at Large - William E. Price

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 15-18 Cornell University Ithaca, NY

Conference Chairman: Harold L. Flescher

Raytheon

Technical Program: Gary Derbenwick

**INMOS** Corporation

Local Arrangements: Donald H. Bryce, KAMAN

Benjamin H. Stevenson, NJIT

Attendance: 490 Technical, 200 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-27**, December 1980

Guest Editor: James M. McGarrity

Harry Diamond Laboratories

Number of technical papers presented: 67 oral, 24 poster, 8 late news

Radiation Effects Committee: Chairman - Jerry A. Hood

Chairman - Jerry A. Hood Vice Chairman - Joseph R. Srour Secretary - John L. Duncan

Senior Member at Large - William E. Price

Junior Member at Large - James L. Ramsey

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 21-24 University of Washington Seattle, WA

Conference Chairman: Itsu Arimura

**Boeing Aerospace Corporation** 

Technical Program: Eric P. Wenaas

**JAYCOR** 

Local Arrangements: Harold Stocks

**Boeing Areospace Corporation** 

Attendance: 660 Technical, 300 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-28, December 1981

Guest Editor: Dante M. Tasca

General Electric Co.

Number of technical papers presented: 78 oral, 32 poster

Radiation Effects Committee: Chairman - Jerry A. Hood

Vice Chairman - Joseph R. Srour Secretary - John L. Duncan

Senior Member at Large - James L. Ramsey Junior Member at Large - Bobby L. Buchanan

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 20-22 Caesar's Palace Las Vegas, NV

Conference Chairman: James L. Ramsey

Naval Weapons Support Center, Crane

Technical Program: Kenneth F. Galloway

National Bureau of Standards

Local Arrangements: George C. Messenger

Consulting Engineer

Attendance: 730 Technical, 380 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-29, December 1982

Guest Editor: David M. Long

Science Applications, Inc.

Number of technical papers presented: 111 oral, 29 poster.

Radiation Effects Committee: Chairman - Jerry A. Hoo

Chairman - Jerry A. Hood Vice Chairman - Joseph R. Srour Secretary - John L. Duncan

Senior Member at Large - Bobby L. Buchanan Junior Member at Large - Allan H. Johnston

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 18-21 Sheraton Hotel Gatlinburg, TN

Conference Chairman: James Gover

Sandia National Laboratories

Technical Program: Charles W. Gwyn

United Technologies Corp.

Local Arrangements: David O. Patterson

Naval Research Laboratory

Attendance: 740 Technical, 350 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-30, December 1983

Guest Editor: William A. Seidler

**JAYCOR** 

Number of technical papers presented: 79 oral, 35 poster, 10 late news

Radiation Effects Committee: Chairman - Joseph R. Srour

Chairman - Joseph R. Srour Vice Chairman - James L. Ramsey Secretary - Dante M. Tasca

Senior Member at Large - Allan H. Johnston

Junior Member at Large - Harold L. Flescher

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 23-25 Broadmoor Hotel Colorado Springs, CO

Conference Chairman: Eric P. Wenaas

**JAYCOR** 

Technical Program: Arne H. Kalma

Northrop Research & Technology Center

Local Arrangements: Thomas A. Tumolillo

Kaman Sciences Corporation

Attendance: 975 Technical, 468 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-31, December 1984

Guest Editor: Peter S. Winokur

Sandia National Laboratories

Number of technical papers presented: 86 oral, 37 poster

Radiation Effects Committee: Chairman

Chairman - Joseph R. Srour
Vice Chairman - James L. Ramsey
Secretary - Dante M. Tasca

Senior Member at Large - Junior Member at Large - Floyd N. Coppage

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 22-24 Hyatt-Regency Hotel Monterey, CA

Conference Chairman: Kenneth F. Galloway

National Bureau of Standards

Technical Program: James M. McGarrity

Harry Diamond Laboratories

Local Arrangements: John P. Retzler

Science Applications International Corp.

Attendance: 1077 Technical, 544 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-32, December 1985

Guest Editor: Chris Jones

Kaman Sciences Corporation

Number of technical papers presented: 70 oral, 36 poster, 4 late news

Radiation Effects Committee: Chairman - Joseph

Chairman - Joseph R. Srour Vice Chairman - James L. Ramsey Secretary - Dante M. Tasca

Senior Member at Large - Floyd N. Coppage Klaus G. Kerris

## **IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS**

July 21-23 Performing Arts Center Providence, RI

Conference Chairman: Roger L. Fitzwilson

SAIC

Technical Program: Bobby L. Buchanan

**USAF** Rome Air Development Center

Local Arrangements: James R. Weckback

Raytheon

Attendance: 804 Technical, 430 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-33. December 1986

Guest Editor: Tom Ellis

Naval Weapons Support Center

Number of technical papers presented: 70 oral, 39 poster, 7 late news

Radiation Effects Committee:

Chairman - James L. Ramsey Vice Chairman - James M. McGarrity Secretary - Kenneth F. Galloway

Senior Member at Large - Klaus G. Kerris

Junior Member at Large - Peter S. Winokur

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 28-31 **Snowmass Conference Center** Snowmass, CO

Conference Chairman: Charles W. Gwynn

**United Technologies Corporation** 

Technical Program: Sherra E. Kerns

North Carolina State University

Local Arrangements: James Gover

Sandia National Laboratories

Attendance: 897 Technical, 580 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-34**. December 1987

Guest Editor: James C. Pickel

**IRT** Corporation

Number of technical papers presented: 98 oral, 51 poster, 14 late news

Radiation Effects Committee: Chairman - James L. Ramsey Vice Chairman - James M. McGarrity

Secretary - Kenneth F. Galloway

Senior Member at Large - Peter S. Winokur

Junior Member at Large - Ronald L. Pease

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 11-15 Marriott Hotel Portland, OR

Conference Chairman: Bobby L. Buchanan

Spire Corporation

Technical Program: Tom D. Ellis

Naval Weapons Support Center, Crane

Local Arrangements: Allan H. Johnston

**Boeing Corporation** 

Attendance: 672 Technical, 380 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-35, December 1988

Guest Editor: Peter G. Coakley

**JAYCOR** 

Number of technical papers presented: 69 oral, 33 poster, 11 late news

Radiation Effects Committee: Chairman - James L. Ramsey

Chairman - James L. Ramsey
Vice Chairman - James M. McGarrity
Secretary - Kenneth F. Galloway

Senior Member at Large - Ronald L. Pease Junior Member at Large - Itsu Arimura

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 24-28 Marriott's Marco Island Resort Marco Island, FL

Conference Chairman: Dante M. Tasca

General Electric Company

Technical Program: Peter S. Winokur

Sandia National Laboratories

Local Arrangements: Klaus G. Kerris

Harry Diamond Laboratories

Attendance: 758 Technical, 426 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-36, December 1989

Guest Editor: Augustin Ochoa

**Hughes Aircraft Company** 

Number of technical papers presented: 66 oral, 31 poster, 3 late news

Radiation Effects Committee: Chairman - James M. McGarrity

Chairman - James M. McGarrity
Vice Chairman - Kenneth F. Galloway
Secretary - Deb M. Newberry

Treasurer - Harold L. Flescher

Senior Member at Large - Ronald L. Pease

Member at Large - Itsu Arimura

Junior Member at Large - Harold L. Hughes

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 16-20 Bally's Hotel Reno. NV

Conference Chairman: Joseph R. Srour

Northrop Research Center

Technical Program: Timothy R. Oldham

Harry Diamond Laboratories

Local Arrangements: James Frank

Honeywell, Inc.

Attendance: 628 Technical, 438 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-37**. December 1990

Guest Editor: Daniel M. Fleetwood

Sandia National Laboratories

Number of technical papers presented: 47 oral, 37 poster, 6 late news

Radiation Effects Committee:

Chairman - James M. McGarrity Vice Chairman - Kenneth F. Galloway Secretary - Deb M. Newberry

Treasurer - Harold L. Flescher
Senior Member at Large - Itsu Arimura
Member at Large - Harold L. Hughes Junior Member at Large - Dale G. Platteter

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 15-19 Town and Country Hotel San Diego, CA

Conference Chairman: Charles E. Barnes

Jet Propulsion Laboratory

Technical Program: Ronald L. Pease

Mission Research Corporation

Local Arrangements: Roger A. Greenwell

Science and Engineering Associates, Inc.

Attendance: 605 Technical, 362 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-38, December 1991

Guest Editor: Douglas G. Millward

SAIC

Number of technical papers presented: 51 oral, 37 poster, 9 late news

Industrial Exhibitors: 18

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Radiation Effects Committee: Chairman - James M. McGarrity

Vice Chairman - Kenneth F. Galloway Secretary - Deb M. Newberry

Treasurer - Deb M. Newberry
Harold L. Flescher
er at Large - Harold L. Hughes

Senior Member at Large - Harold L. Hughes
Member at Large - Dale G. Platteter

Junior Member at Large - Edward L. Peterson

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 13-17 Hyatt Regency Hotel New Orleans, LA

Conference Chairman: Mayrant Simons

Research Triangle Institute

Technical Program: Nelson S. Saks

Naval Research Laboratory

Local Arrangements: William B. Mohr

SRI International

Attendance: 506 Technical, 324 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-39, December 1992

Guest Editor: Nick W. van Vonno

Harris Semiconductor

Number of technical papers presented: 50 oral, 40 poster, 12 late news

Radiation Effects Data Workshop papers: 10

Industrial Exhibitors: 19

Radiation Effects Committee: Chairman - Kenneth F. Galloway

Vice Chairman Secretary Treasurer Senior Member at Large 
Vice Chairman Reter S. Winokur
Klaus G. Kerris
Sandra L. Anderson
Dale G. Platteter

Senior Member at Large - Dale G. Platteter

Member at Large - Edward L. Peterson

Junior Member at Large - Charles E. Barnes

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 19-23 Snowbird Ski & Summer Resort Snowbird, UT

Conference Chairman: Paul V. Dressendorfer

Sandia National Laboratory

Technical Program: Dennis B. Brown

Naval Research Laboratory

Local Arrangements: John J. Silver

United Technologies Microelectronics

Attendance: 434 Technical, 269 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-40**, December 1993

Guest Editor: Martin G. Buehler

Jet Propulsion Laboratory

Number of technical papers presented: 56 oral, 45 poster, 6 late news

Radiation Effects Data Workshop papers: 17

Industrial Exhibitors: 14

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Radiation Effects Committee: Chairman - Kenneth F. Galloway

Vice Chairman - Peter S. Winokur
Secretary - Klaus G. Kerris
Treasurer - David C. Meshel

Senior Member at Large - Edward L. Peterson Member at Large - Charles E. Barnes Junior Member at Large - Philippe Calvel

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 18-22 Westin La Paloma Resort Tucson, AZ

Conference Chairman: Timothy R. Oldham

Army Research Laboratory

Technical Program: Daniel Fleetwood

Sandia National Laboratories

Local Arrangements: Tom Cheek

**Texas Instruments** 

Attendance: 432 Technical, 300 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-41, December 1994

Guest Editor: H. Edwin Boesch, Jr.

Army Research Laboratory

Number of technical papers presented: 57 oral, 56 poster, 11 late news

Radiation Effects Data Workshop papers: 18

Industrial Exhibitors: 15

Radiation Effects Committee: Chairman - Kenneth F. Galloway

Vice Chairman - Peter S. Winokur Secretary - Klaus G. Kerris Treasurer - David C. Meshel

Senior Member at Large - Charles E. Barnes
Member at Large - Philippe Calvel
Junior Member at Large - David W. Emily

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 17-21 Holiday Inn - Madison West Madison, WI

Conference Chairman: Dale G. Platteter

Naval Surface Warfare Center, Crane

Technical Program: Peter J. McNulty

Clemson University

Local Arrangements: Ken Hunt

Mission Research Corporation

Attendance: 371 Technical, 240 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-42, December 1995

Guest Editor: Ronald D. Schrimpf

University of Arizona

Number of technical papers presented: 54 oral, 42 poster

Radiation Effects Data Workshop papers: 20

Industrial Exhibitors: 12

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Radiation Effects Committee: Chairman - Peter S. Winokur

Vice Chairman - Klaus G. Kerris Secretary - Mary D'Ordine Treasurer - Walter Shedd

Senior Member at Large - Member at Large - David W. Emily
Junior Member at Large - Jin Frank

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 15-19 Stouffer's Esmeralda Resort Indian Wells, CA

Conference Chairman: Charles Utrias

Loral Federal Systems

Technical Program: Ron Schrimpf

University of Arizona

Local Arrangements: Marty Shaneyfelt

Sandia National Laboratories

Attendance: 418 Technical, 284 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-43, December 1996

Guest Editor: Art Campbell

Naval Research Laboratory

Number of technical papers presented: 51 oral, 56 poster

Radiation Effects Data Workshop papers: 16

Industrial Exhibitors: 16

Radiation Effects Committee: Chairman - Peter S. Winokur

Vice Chairman - Klaus G. Kerris Secretary - Mary D'Ordine Treasurer - Walter Shedd Senior Member at Large - David W. Emily

Member at Large - Jim Frank

Junior Member at Large - Ken LaBel

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 21-25 Snowmass Conference Center Snowmass, CO

Conference Chairman: Dennis Brown

Naval Research Laboratory

Technical Program: Allan Johnston

JPL

Local Arrangements: Teresa Farris

**UTMC** 

Attendance: 505 Technical, 353 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-44, December 1997

Guest Editor: Lloyd Massengill

Vanderbilt University

Number of technical papers presented: 52 oral, 38 poster

Radiation Effects Data Workshop papers: 21

Industrial Exhibitors: 27

Radiation Effects Committee: Chairman - Peter S. Winokur

Vice Chairman - Klaus G. Kerris Secretary - Dave Emily Treasurer - Walter Shedd

Senior Member at Large - Jim Frank
Member at Large - Ken LaBel
Junior Member at Large - Steve Bernacki

### IEEE ANNUAL CONFERENCE ON **NUCLEAR AND SPACE RADIATION EFFECTS**

July 20-24 **Newport Beach Marriott** Newport Beach, CA

Conference Chairman: Jim Schwank

Sandia National Laboratories

Technical Program: Lloyd Massengill

Vanderbilt University

Local Arrangements: Gary Lum

Lockheed-Martin

Attendance: 564 Technical, 413 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-45. December 1998

Guest Editor: Fred Sexton

Sandia National Laboratories

Number of technical papers presented: 47 oral, 46 poster

Radiation Effects Data Workshop papers: 27

Industrial Exhibitors: 32

Radiation Effects Committee: Chairman - Klaus G. Kerris

Vice Chairman - Dale Platteter

Secretary - Allan Johnston
Senior Member at Large - Ken LaBel
Member at Large - Steve Bernacki

Junior Member at Large - Nick Van Vonno

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 12-16 Waterside Marriott Norfolk, VA

Conference Chairman: Ron Schrimpf

Vanderbilt University

Technical Program: Fred Sexton

Sandia National Laboratories

Local Arrangements: Ken LaBel

NASA Goddard Space Flight Center

Attendance: 518 Technical, 413 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-46**. December 1999

Guest Editor: Tim Oldham

Army Research Lab

Number of technical papers presented: 49 oral, 32 poster

Radiation Effects Data Workshop papers: 21

Industrial Exhibitors: 41

Radiation Effects Committee: Chairman - Klaus G. Kerris

Vice Chairman - Dale Platteter

Secretary - Allan Johnston
Senior Member at Large - Member at Large - Nick Van Vonno Junior Member at Large - Jim Kinnison

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 24-28 Silver Legacy Resort & Casino Reno. NV

Conference Chairman: Ron Pease

RLP Research

Technical Program: Art Campbell

Naval Research Lab

Local Arrangements: Steve Clark, AFRL

Jeff Black, MRC

Attendance: 492 Technical, 331 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-47**. December 2000

Guest Editor: Janet Barth

NASA Goddard SFC

Number of technical papers presented: 54 oral, 33 poster

Radiation Effects Data Workshop papers: 27

Industrial Exhibitors: 36

Radiation Effects Committee: Chairman - Klaus G. Kerris

Vice Chairman - Dale Platteter

Secretary - Allan Johnston Senior Member at Large - Nick Van Vonno Member at Large - Jim Kinnison

Junior Member at Large - Fred Sexton

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 16-20 Westin Bayshore Vancouver, BC, Canada

Conference Chairman: Marty R. Shaneyfelt

Sandia National Laboratories

Technical Program: Janet Barth

NASA-Goddard Space Flight Center

Local Arrangements: Joe Benedetto

**UTMC** 

Attendance: 474 Technical, 325 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

**NS-48**. December 2001

Guest Editor: Mike Xapsos

Naval Research Lab

Number of technical papers presented: 52 oral, 35 poster, 7 late news

Radiation Effects Data Workshop papers: 27

Industrial Exhibitors: 31

Radiation Effects Committee: Chairman - Dale Platteter

Vice Chairman - Ron Schrimpf
Secretary - Jim Schwank
Senior Member at Large - Member at Large - Fred Sexton

Junior Member at Large - David Hiemstra

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 15-19 Pointe South Mountain Resort Phoenix, AZ

Conference Chairman: Ken Hunt

Air Force Research Laboratory

Technical Program: Tom Turflinger

NAVSEA - Crane

Local Arrangements: Jeff Black

Mission Research Corporation

Attendance: 516 Technical, 370 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-49. December 2002

Guest Editor: Steve Witczak

Sandia National Laboratory

Number of technical papers presented: 50 oral, 55 poster

Radiation Effects Data Workshop papers: 30

Industrial Exhibitors: 36

Radiation Effects Committee: Chairman - Dale Platteter

Vice Chairman - Ron Schrimpf Secretary - Jim Schwank
Senior Member at Large - Fred Sexton

Member at Large - David Hiemstra

Junior Member at Large - Janet Barth

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 21-25 DoubleTree Hotel Monterey, CA

Conference Chairman: Allan Johnston

Jet Propulsion Laboratory

Technical Program: Paul Dodd

Sandia National Laboratories

Local Arrangements: Mark Hopkins

The Aerospace Corporation

Attendance: 554 Technical, 372 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-50. December 2003

Guest Editor: Jim Kinnison

John Hopkins / Applied Physics Lab

Number of technical papers presented: 50 oral, 55 poster

Radiation Effects Data Workshop papers: 30

Industrial Exhibitors: 41

Radiation Effects Committee: Chairman - Dale Platteter

Vice Chairman - Ron Schrimpf

Secretary - Jim Schwank
Senior Member at Large - David Hiemstra Member at Large - Ron Pease

Junior Member at Large - Gary Lum

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 19-23 Renaissance Waverly Hotel Atlanta, GA

Conference Chairman: Dan Fleetwood

Vanderbilt University

Technical Program: Jim Pickel

PRT, Inc.

Local Arrangements: Jim Kinnison

John Hopkins Applied Physics Lab

Attendance: 523 Technical, 361 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-51, December 2004

Guest Editor: Lew Cohn

**Defense Threat Reduction Agency** 

Number of technical papers presented: 51 oral, 52 poster, 10 late news

Radiation Effects Data Workshop papers: 32

Industrial Exhibitors: 40

Radiation Effects Committee: Chairman - Ron Schrimpf

Vice Chairman - Tim Oldham Secretary - Jeff Black Senior Member at Large - Ron Pease

Member at Large - Gary Lum

Junior Member at Large - Steven L. Clark

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 11-15 Seattle Sheraton Hotel Seattle, WA

Conference Chairman: Fred Sexton

Sandia National Laboratories

Technical Program: Mike Xapsos

NASA Goddard SFC

Local Arrangements: Kay Jobe

**Boeing Space Systems** 

Attendance: 581 Technical, 435 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-52, December 2005

Guest Editor: John Cressler

Georgia Tech

Number of technical papers presented: 49 oral, 44 poster, 8 late news

Radiation Effects Data Workshop papers: 27

Industrial Exhibitors: 40

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Radiation Effects Committee: Chairman - Ron Schrimpf

Vice Chairman - Tim Oldham Secretary - Jeff Black

Senior Member at Large - Gary Lum

Member at Large - Steven L. Clark

Junior Member at Large - Veronique Ferlet-Cavrois

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 17-21 Sawgrass Marriott Resort Ponte Vedra Beach, FL

Conference Chairman: Janet Barth

NASA Goddard SFC

Technical Program: Gary Lum

Lockheed Martin

Local Arrangements: Nick van Vonno

Intersil

Attendance: 505 Technical, 382 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-53, December 2006

Guest Editor: Philippe Paillet

CEA France

Number of technical papers presented: 53 oral, 57 poster

Radiation Effects Data Workshop papers: 34

Industrial Exhibitors: 41

Radiation Effects Committee: Chairman - Ron Schrimpf

Vice Chairman - Tim Oldham Secretary - Jeff Black

Senior Member at Large - Steven L. Clark

Member at Large - Veronique Ferlet-Cavrois

Junior Member at Large - Wayne Abare

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 23-27 Hilton Hawaiian Village Honolulu, HI

Conference Chairman: Lloyd Massengill

Vanderbilt University

Technical Program: John Cressler

Georgia Tech

Local Arrangements: Susan Crain

The Aerospace Corporation

Attendance: 507 Technical, 386 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-54, December 2007

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Philippe Paillet, CEA

Jim Felix, Sandia Steve Buchner, QSS Paul Marshall, consultant Sophie Duzellier, ONERA Dennis Brown, IEEE NPSS

Number of technical papers presented: 56 oral, 55 poster

Radiation Effects Data Workshop papers: 40

Industrial Exhibitors: 40

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Radiation Effects Committee: Chairman - Tim Oldham

Vice Chairman - Dan Fleetwood Secretary - Kay Jobe

Senior Member at Large - Veronique Ferlet-Cavrois

Member at Large - Wayne Abare

Junior Member at Large - Marty Shaneyfelt

# IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 14-18 J. W. Marriott Sparr Pass Resort Tucson, AZ

Conference Chairman: Paul Dodd

Sandia National Laboratories

Technical Program: Nick van Vonno

Intersil

Local Arrangements: Bill Heidergott

**General Dynamics** 

Attendance: 519 Technical, 378 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-55, December 2008

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Steve Buchner, QSS

Paul Marshall, consultant Sophie Duzellier, ONERA Dennis Brown, IEEE NPSS Christian Poivey, ESA Ron Pease, RLP Research

Number of technical papers presented: 52 oral, 64 poster

Radiation Effects Data Workshop papers: 27

Industrial Exhibitors: 45

Radiation Effects Committee: Chairman - Tim Oldham

Vice Chairman - Dan Fleetwood Secretary - Kay Jobe Senior Member at Large - Wayne Abare

Member at Large - Wayne Abare

Member at Large - Marty Shaneyfelt

Junior Member at Large - Philippe Paillet

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 20-24 Hilton and Convention Center Quebec City, Canada

Conference Chairman: Mark Hopkins

The Aerospace Corporation

Technical Program: Lew Cohn

Naval Research Lab

Local Arrangements: Dave Hiemstra

MDA Space Missions

Attendance: 489 Technical, 362 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-56, December 2009

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Paul Marshall, consultant

Dennis Brown, IEEE NPSS Christian Poivey, ESA Ron Pease, RLP Research

Sylvain Girard, CEA Robert Reed, Vanderbilt

Number of technical papers presented: 47 oral, 54 poster

Radiation Effects Data Workshop papers: 30

Industrial Exhibitors: 40

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Radiation Effects Committee: Chairman - Tim Oldham
Vice Chairman - Dan Fleetwood

Secretary - Barry Willits
Senior Member at Large - Marty Shaneyfelt

Member at Large - Marty Shaneyfelt

Member at Large - Philippe Paillet

Junior Member at Large - Mike Xapsos

### IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 19-23 Sheraton Denver Downtown Hotel Denver, CO

Conference Chairman: Joe Benedetto

Aeroflex RAD

Technical Program: Jeff Black

Vanderbilt University

Local Arrangements: Hugh Barnaby

Arizona State University

Attendance: 558 Technical, 411 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-57, December 2010

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Paul Marshall, consultant

Dennis Brown, IEEE NPSS Christian Poivey, ESA Ron Pease, RLP Research Sylvain Girard, CEA

Pascale Gouker, MIT LL

Number of technical papers presented: 47 oral, 63 poster

Radiation Effects Data Workshop papers: 29

Industrial Exhibitors: 53

Radiation Effects Committee: Chairman - Dan Fleetwood

Vice Chairman - Marty Shaneyfelt Secretary - Steve Clark Senior Member at Large - Philippe Paillet

Member at Large - Philippe Palliet

Member at Large - Mike Xapsos

Junior Member at Large - Pascale Gouker

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 25-29 J. W. Marriott Las Vegas Resort Summerlin, NV

Conference Chairman: Kay Chesnut

The Boeing Co.

Technical Program: Robert Reed

Vanderbilt University

Local Arrangements: Dale McMorrow

Naval Research Lab

Attendance: 551 Technical, 413 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-58, December 2011

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Paul Marshall, consultant

Dennis Brown, IEEE NPSS Ron Pease, RLP Research Sylvain Girard, CEA

Sylvain Girard, CEA
Pascale Gouker, MIT LL

Simone Garardin, Padova Uni.

Number of technical papers presented: 48 oral, 55 poster

Radiation Effects Data Workshop papers: 35

Industrial Exhibitors: 55

Radiation Effects Committee: Chairman - Dan Fleetwood
Vice Chairman - Marty Shaneyfelt

Secretary - Steve Clark
Senior Member at Large - Mike Xapsos

Member at Large - Pascale Gouker

Junior Member at Large - Vincent Pouget

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 16-20 Intercontental Miami Hotel Miami. FL

Conference Chairman: Kenneth LaBel

NASA Goddard SFC

Technical Program: Christian Poivey

**European Space Agency** 

Local Arrangements: Lew Cohn

National Reconnaissance Office

Attendance: 505 Technical, 360 Short Course

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-59, December 2012

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Dennis Brown, IEEE NPSS

Sylvain Girard, CEA Pascale Gouker, MIT LL

Simone Garardin, Padova Uni.

Hugh Barnaby, ASU Heather Quinn, LANL

Number of technical papers presented:

Radiation Effects Data Workshop papers: 34

Industrial Exhibitors: 57

Radiation Effects Committee: Chairman - Dan Fleetwood

Vice Chairman - Marty Shaneyfelt Secretary - Steve Clark Senior Member at Large - Pascale Gouker

Senior Member at Large - Pascale Gouker Member at Large - Vincent Pouget Junior Member at Large - Nick van Vonno

## IEEE ANNUAL CONFERENCE ON NUCLEAR AND SPACE RADIATION EFFECTS

July 8-12 Hyatt Regency San Francisco San Francisco, CA

Conference Chairman: Jeffrey Black

Sandia National Labs

Technical Program: Cheryl Marshall

NASA Goddard SFC

Local Arrangements: Dolores Black

UNM/COSMIAC

Attendance:

Proceedings Published in:

IEEE Transactions on Nuclear Science

NS-60, December 2013

Senior Editor: Jim Schwank, Sandia Labs

Associate Editors Dennis Brown, IEEE NPSS

Sylvain Girard, CEA Pascale Gouker, MIT LL

Simone Garardin, Padova Uni.

Hugh Barnaby, ASU Heather Quinn, LANL

Radiation Effects Committee: Chairman - Marty Shaneyfelt

Vice Chairman - Allan Johnston

Secretary - Pascale Gouker

Senior Member at Large - Vincent Pouget Member at Large - Nick van Vonno

Junior Member at Large - Gary Lum

#### **NSREC Outstanding Paper Awards**

Here is the list of NSREC Outstanding Conference Papers from 1964 - 2011.

- 1964 R.C. Waddel, "Radiation Damage to Solar Cells on Relay I and Relay II," IEEE Trans. Nucl. Sci. 11, No. 5, pp. 60-68, 1964.
  - C.A. Goben and F.M. Smitts, "Anomalous Base Current Component in Neutron Irradiated Transistors," (not published in IEEE Trans. Nucl. Sci.).
- 1965 R.B. Oswald, Jr. and C. Kikuchi, "Changes in the Conductive Properties of CdS Induced by Thermal Neutrons," (not published in IEEE Trans. Nucl. Sci.).
- 1966 H.H. Sander and B.L. Gregory, "Transient Annealing Effects in Semiconductor Devices Following Pulsed Neutron Irradiation," IEEE Trans. Nucl. Sci. 13, No. 6, pp. 53-62, 1966.
- 1967 C.W. Gwyn, D.L. Scharfetter, and J.L. Wirth, "The Analysis of Radiation Effects in Semiconductor Devices," IEEE Trans. Nucl. Sci. 14, No. 6, pp. 153-169, 1967.
- H.J. Stein, "Electrical Properties of Neutron-Irradiated Silicon at 76°K: Hall Effect and Electrical Conductivity," IEEE Trans. Nucl. Sci. 15, No. 6, pp. 69-76, 1968.
  - D.K. Wilson, "Capacitance Recovery in Neutron-Irradiated Silicon Diodes by Majority and Minority -Carrier Trapping," IEEE Trans. Nucl. Sci. 15, No. 6, pp. 77-83, 1968.
- P.F. Schmidt, M.J. Rand, J.P. Mitchell, and J.D. Ashner, "Radiation-Insensitive Silicon Oxynitride Films for Use in Silicon Devices," IEEE Trans. Nucl. Sci. 16, No. 6, pp. 211-219, 1969.
- 1970 R.E. Leadon, "Model for Short-Term Annealing of Neutron Damage in P-Type Silicon," IEEE Trans. Nucl. Sci. 17, No. 6, pp. 110-117, 1970.
- 1971 R.J. Powell and G.F. Derbenwick, "Vacuum Ultraviolet Radiation Effects in SiO<sub>2</sub>," IEEE Trans. Nucl. Sci. 18, No. 6, pp. 99-105, 1971.
- 1972 J.R. Srour and O.L. Curtis, Jr., "Short-Term Annealing in Silicon Devices Following Pulsed 14 -MeV Neutron Irradiation," IEEE Trans. Nucl. Sci. 19, No. 6, pp. 362-370, 1972.
- E. Harari and B.S.H. Royce, "The Effects of Electron and Hole Trapping on the Radiation Hardness of AL<sub>2</sub>O<sub>3</sub> MIS Devices," IEEE Trans. Nucl. Sci. 20, No. 6, pp. 280-287, 1973.
- 1974 J.R. Srour, O.L. Curtis, Jr., and K.Y. Chiu, "Charge Transport Studies in SiO<sub>2</sub>: Processing Effects and Implications for Radiation Hardening," IEEE Trans. Nucl. Sci. 21, No. 6, pp. 73-80, 1974.
  - R.J. Powell and G.W. Hughes, "Charge Injection and Trapping in Al<sub>2</sub>O<sub>3</sub> Gate Insulators," IEEE Trans. Nucl. Sci. 21, No. 6, pp. 179-185, 1974.
- 1975 G.F. Derbenwick and B. L. Gregory, "Process Optimization of Radiation-Hardened CMOS Integrated Circuits," IEEE Trans. Nucl. Sci. 22, No. 6, pp. 2151-2156, 1975.
  - J.E. Lohkamp and J.M. McKenzie, "Measurement of the Energy Dependence of Neutron Damage in Silicon Devices," IEEE Trans. Nucl. Sci. 22, No. 6, pp. 2319-2325, 1975.
- 1976 P.S. Winokur, J.M. McGarrity, and H.E. Boesch, Jr., "Dependence of Interface-State Buildup on Hole Generation and Transport in Irradiated MOS Capacitors," IEEE Trans. Nucl. Sci. 23, No. 6, pp. 1580-1585, 1976.

- 1977 J.P. Raymond and R.L. Pease, "A Comparative Evaluation of Integrated Injection Logic," IEEE Trans. Nucl. Sci. 24, No. 6, pp. 2327-2335, 1977.
- 1978 D.M. Tasca, E.T. Raylman, B.L. Beers, and J.E. Tigner, "SGEMP Response of Large, Multiwire Satellite Cables," IEEE Trans. Nucl. Sci. 25, No. 6, pp. 1382-1390, 1978.
- 1979 H.E. Boesch, Jr., and J.M. McGarrity, "An Electrical Technique to Measure the Susceptibility of MOS Gate Insulators," IEEE Trans. Nucl. Sci. 26, No. 6, pp. 4814-4818, 1979.
  - W.A. Seidler, B. Goplen, and W. Thomas, "Investigation of Enhanced Electron Current Transport in a Dielectric Lined Cavity," IEEE Trans. Nucl. Sci. 26, No. 6, pp. 4998-5005, 1979.
- J.R. Srour, R.A. Hartmann, and S. Othmer, "Transient and Permanent Effects of Neutron Bombardment on a Commercially Available N-Buried-Channel CCD," IEEE Trans. Nucl. Sci. 27, No. 6, pp. 1402-1410, 1980.
- J.R. Srour, S. Othmer, A. Bahraman, and R.A. Hartmann, "The Search for Neutron-Induced Hard Errors in VLSI Structures," IEEE Trans. Nucl. Sci. 28, No. 6, pp. 3968-3974, 1981.
- W.A. Seidler, R.C. Keyser, D. Walters, and H.T. Harper, "The Limits to Hardening Electronic Boxes to IEMP Coupling," IEEE Trans. Nucl. Sci. 29, No. 6, pp. 1780-1786, 1982.
- 1983 R.L. Pease, R.M. Turfler, D.G. Platteter, D.W. Emily, and R.D. Blice, "Total Dose Effects in Recessed Oxide Digital Bipolar Microcircuits," IEEE Trans. Nucl. Sci. 30, No. 6, pp. 4216-4223, 1983.
- J.R. Schwank, P.S. Winokur, P.J. McWhorter, F.W. Sexton, P.V. Dressendorfer, and D.C. Turpin, "Physical Mechanisms Contributing to Device Rebound," IEEE Trans. Nucl. Sci. 31, No. 6, pp. 1434-1438, 1984.
- P.S. Winokur, E.B. Errett, D.M. Fleetwood, P.V. Dressendorfer, and D.C. Turpin,
   "Optimizing and Controlling the Radiation Hardness of a Si-Gate CMOS Process," IEEE
   Trans. Nucl. Sci. 32, No. 6, pp. 3954-3960, 1985.
  - J.R. Srour and R.A. Hartman, "Effects of Single Neutron Interactions in Silicon Integrated Circuits," IEEE Trans. Nucl. Sci. 32, No. 6, pp. 4195-4200, 1985.
- J.R. Srour, R.A. Hartman, and K.S. Kitazaki, "Permanent Damage Produced by Single Proton Interactions in Silicon Devices," IEEE Trans. Nucl. Sci. 33, No. 6, pp. 1597-1604, 1986.
  - R.S. Wagner, J.M.. Bradley, C.J. Maggiore, J.G. Beery, and R.B. Hammond, "An Approach to Measure Ultrafast-Funneling-Current Transients," IEEE Trans. Nucl. Sci. 33, No. 6, pp. 1651-1656, 1986.
- 1987 G.P. Summers, E.A. Burke, C.J. Dale, E.A. Wolicki, P.W. Marshall, and M.A. Gehlhausen, "Correlation of Particle-Induced Displacement Damage in Silicon," IEEE Trans. Nucl. Sci. 34, No. 6, pp. 1134-1139, 1987.
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